AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"*O fortunatos nimium sua si bona norint*
"*Agricolas.*" . . . VIRG.

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AGRICULTURE.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE

Agricultural Society

OF ALBEMARLE, (VIRG.)

No. 4.

AN ADDRESS, delivered at their stated meeting in May, 1820. By Thomas G. Watkins, M. D. member of the committee of correspondence, &c. of said Society.

Mr. PRESIDENT,

Whatever subjects are connected with the condition of Agriculture, and Agriculturists in any way, are made by the principles of the constitution of our society, just objects of attention to its members. But in conformity to the examples of its most distinguished members, who have taken the lead in its useful contributions of practical information; it would have been more desirable to me, even in an address, admitting greater latitude than ordinary communications, to have been enabled to confine myself to a similar course; and to have called the attention of the society to practical facts, rather than speculative opinions. But I am admonished by experience, that practical agricultural facts, to be properly ascertained and thereby made satisfactory and useful, require to be conducted with a series of uninterrupted attentions, which it is not my good fortune to be able to bestow, consistently with more imposing duties. When I first had the honour of becoming a member of the society—it was my expectation, as it had been my hope, to make agriculture my exclusive pursuit; but fortune has ordained it otherwise, and I am compelled to devote my time almost incessantly to the labours of a profession, whose more responsible avocations are in perpetual confliction, with my wishes to complete many agricultural experiments, which I had prepared to make. Still my zeal for the interests of agriculture has continued, and yet continues unabated—and my solicitude for the useful and honourable progress of our society, will dispose me at all times to contribute my might in some way or other. The more so at this particular time, when the late infliction of providence, in an unparalleled drought, seems calculated to co-operate with other recently multiplied causes, in rousing the attention of Agriculturists, at least, to the intrinsic importance of Agriculture. Our country, abounding in the most extended, cheap and fertile soils, that could be asked of a beneficent God, to contribute to the wants, the comforts and the wishes of mankind, in an agricultural point of view, has exhibited to the world the strangest anomalies, hostile to its own true and permanent interest. Attending to the debates in congress a few years ago, one would have thought that America was in Europe, and her subsistence upon the Ocean.—To the state legislatures; that our greatest prosperity consisted in banking operations and facilities—and to our fashionable routes, that the happiness of society depended upon their extravagant and dissocial interpolations, upon the republican simplicity of our once plainer and happier intercourse. The delirium which produced these delusions, and the unhappy paroxysms which accompanied them are fast subsiding, and may soon leave us in a condition to contemplate our wreck, and think about the best means of repairing the shattered remains of exhausted estates. And here we shall be forcibly reminded, after all this crash of empty speculation, that from the earth we derived our prosperity and independence, and to the earth, rural and domestic economy, we must return to meet them again. But before entering upon the subject of some particular operations and experiments connected with the earth, which it is my principal object to propose; I must beg permission to remark, incidentally upon some of the causes, which have tended to mislead the public mind from the proper influence of Agriculture. In adverting to the causes, which have conspired to stifle the voice of Agriculture, and destroy its due influence upon the manners, the customs, and the councils of this nation, a mistaken notion about commerce, presents itself as their chief source. Commerce, the offspring of Agriculture, was originally designed to be her handmaid; but by partial combinations against the true interests of mankind, this just order of things according to the dictates of reason and providence, has been perverted—and commerce has assumed to be the mistress of her parent; introducing in her train all the idle fripperies of her corrupt and corrupting system, in subversion of ingenuous, dignified and substantial usefulness. These things have been imposed upon us, too, under the impression ingeniously made, that our true interests were to be permanently subserved by them. As government was to be supported, taxes must be raised—and by commerce was the easiest, the best way to raise them. This subject deserves to be closely viewed, and attentively considered by agriculturists; it is most intimately connected with their vital interests.

The most prominent argument, and that most relied upon by the advocates of commerce in support of their favourite system is, that by its rich resources it frees from the more odious form of direct taxation, our restiff citizens. The proper subject for agriculturists to consider is, not, whether any mode of taxation is odious—but, whether it is right or wrong. If wrong has been made more popular, by contrivances practised upon our ignorance, our avarice, or our vanity, and our representatives have not had the bold integrity to set us right—let us set about it ourselves. Let us examine whether this assumption is right, that the best source of taxation, as it respects the interest of Agriculture, which is the great interest of our country—is commerce: for if it is not, the majority of our people, I am persuaded, need only a correct knowledge of the right way to induce them to follow it. Any other mode of taxation is better than that which beguiles us, however slowly, to our ruin. We pay a very great price for the protection of commerce, because commerce enriches the treasury; but the best resources of a nation consist in the permanent and substantial wealth of the citizens! Does commerce always enrich these? But what is more to our present purpose, does it pay their taxes independent of themselves? or does it doubly tax them?—first, for the full amount of its good and bad commodities, and then an ample indemnity for all its own charges and extravagancies? Thus at the same time drawing from the pocket of our hood-winked farmer (with the amount of his tea and his taffety)—the taxes with interest, for the support of government, and its own luxurious indulgencies. Never fear commerce, let it alone for indemnity and profit.—But it does enrich the individuals of a nation, enables them to procure its commodities, and leaves them a surplus for taxes, and the enjoyment of foreign luxuries, over and above their necessary support. All this may in some degree be true, but by increasing their expenses for its own support—their extravagance—their corruption, and their appetites, it reduces them again below their necessary support. Our present embarrassments sufficiently prove this. They have grown out of a perverted commerce, and its ruinous consequences—its examples and influence; and this at a time, too, when our resources have been greatly multiplied upon us, by the peculiar operation of foreign causes! Its old advocates, sensible of the truth of all this, and perceiving its expiring influence, would eviscerate their former protegée, to pamper a new favourite, to the prejudice of agriculture—just at the only time, perhaps, that, the interest of the latter has been particularly involved in the unshackled existence of the former.

If our embarrassments have been growing to their present pitch, while we have been receiving two dollars a bushel for wheat, and twenty per hundred weight for tobacco—foreign goods, too, cheaper then than usual—what are we to expect, if we continue our former system under the present price of foreign produce?—and is this a time to raise the price of articles by sudden restrictions,—when by the errours of a former policy, agriculture has been rendered absolutely dependent upon them? Seeing our blind rage for an excessive commerce, foreigners have practised upon us for their own advantage. If one nation has exchanged its shadows for the real substance of another—that is, its useless trifles, that minister to vanities and follies only, for the solid product of the other's soil—the former *might* have been substantially and per-

manently benefited, while the other could at best be but apparently or temporarily so. How many rich tobacco planters have gutted their soil—the very goose to lay their golden eggs, and exchanged the product for foreign commerce? and what have they in return for their exhausted fields!!! The necessaries and comforts of life, a competency according to the dictates of nature and reason, require but little; but what shall suffice for the pride of luxury and the appetites of corruption? I have nothing to say against a necessary—a suitable commerce—I would more especially now, be its warmest advocate. But I would at the same time, more than ever, cherish Agriculture and its concomitants, as the true sources of the private and public virtues of industry and economy—of internal independence—republican strength and individual happiness. And if the councils of the nation cannot so regulate foreign commerce, as to prevent its ruinous and corrupting consequences—let agriculturists regulate their part of it for themselves—let every farmer subsist upon his own means as far as practicable—that is, eat his own meat and bread—drink his own rye or chickory coffee, and wear his own home-made cloth. We shall soon see where the taxes come from, and who support government. And then, and not till then, classes will rank according to their intrinsic, and not factitious merits—and the councils of the nation obey the right impulse. It is the interest, and therefore the duty of agriculturists, to understand and examine into the operations of the government which they support, and particularly those operations which relate to taxation; I need make no apology, therefore, for having dwelt upon this subject. It is in vain to labour if we do not take care of, and give a proper direction to the product. The mode, (more than the amount of taxation,) has greater influence upon the other operations of government, and upon the manners, customs, and dispositions of a people—than might be imagined upon a careless view of the subject. Those immediately concerned in the administration of any government, are more apt to consider the temporary facilities of providing for that administration, than the ultimate tendency of the modes proposed upon the moral and political sentiments of a nation. A circumstance that might increase the evils of government, should it ever be our misfortune to come under a weak or a wicked administration. Amitting them virtue, a majority might lack the foresight to resist the more partial and keen-sighted views of a time and self serving policy. Hence a reason, perhaps, why the interests, the ways and the fashions of commerce have commanded more of the respect and patronage of our government. The taxes were derived directly from commerce, and her agents—their wits polished by business, and their influence strengthened by combination, her followers were more competent to take advantage of this circumstance in promoting her interest; while humble retiring Agriculture has been told not to meddle with things which did not concern her, until she has been driven to act, as if it were really true that nothing belongs to her, but dirt, toil, and passive obedience. Insomuch, that while your coffee-house gentry—the windy votaries of commerce, are audaciously vociferating upon men and measure, with a boisterous confidence—the different advocate of his country's best interests—if he but opens his mouth in defence of a better cause, is astounded, and made to feel as if he were treading upon consecrated ground. But after all, Sir, what is there in our proud cities, which commerce has not wrested from the wants or the profusion of Agriculture? and if they will abuse the precarious boon, by their haughty and extravagant display—let the country withhold her contributions—their lofty edifices will moulder to the ground—their splendid equipages vanish away—and their tinselled greatness sink again to the just level of insulted Agriculture.

In a republican society whatever is most useful ought to be most respectable; and in the end it will be so in this country, notwithstanding the predictions that our republican institutions must yield to the torrent of foreign fashion; a faithless sentiment, got up in hostility abroad, and handed over among us, to be repeated by those who are willing to see it verified. Agriculturists are not alone injured by the undue influence, the perversion of commerce—too many of her own immediate followers, faithful patriots, friends to whatever is due to her just rights, and long fortunate upon her good old plans, have been unable to stand against the host of novelties conjured up in her train, and sink embarrassed in their old age. Parasitical plants, springing up at the same time like fungi from her corruptions—seem engrafted upon society, to extort from the liberal or unwary, their ancient means of imparting whatever is noble, generous, or hospitable in our country. The correctives of these evils is only to be found in a proper spirit of Agriculture, with the industry, economy, and virtue which naturally follow in her train. Domestic manufacturing too, will soon be called into her aid, and if we do not commence it directly from prudent precaution, we shall very soon be driven to it from necessity. Hitherto we could depend upon the product of our soils to supply us with articles, necessary and unnecessary, from the markets of Europe. But the condition of that country is greatly changed, and Europe will soon want nothing from America but at the most reduced prices, or in exchange for things comparatively trifling, and which ought not to be indulged in by Americans, but as a production extra of their own necessaries, or derivable from their own ingenuity. Suppose all Europe and her dependencies sunk into the ocean; what should we then do?

But it is time to come home to our native soil, and to enter upon the subject of my proposed agricultural operations and experiments. A want of greater precision in conducting agricultural labours and experiments, may be justly considered as the chief cause of the lingering progress of agricultural knowledge and improvement.—Erroneous tradition is taken for established experience; received opinions for matters of fact; and mere calculations have been served up for experiments; or, if these have been made, it was under different circumstances of season, climate or soil, or with so little precision as to afford no satisfaction to the discerning, while they mislead the inconsiderate. Experiment to be relied on, must be reduced to a science, and to erect a system we must begin with the elements. My plan is to propose a set of elementary experiments, designed to lead to precise and indubitable results, and in order to afford each member a clear idea of it, and the facility with which it may be conducted, as well as the amusement, pleasure, and interest likely to be afforded by it, I shall venture with much deference to sketch out and offer a detail illustrative of this plan, which can be altered or modified to suit the object in any better way that may suggest itself to the society, or any member, if it should be judged practicable, and likely to be useful at all. The great object of Agriculture is permanent subsistence; accordingly such experiments as may lead to a knowledge of the greatest product that any given soil is capable of, without deteriorating it, if already fertile enough, or with progressive amelioration, if that is practicable and necessary, is a principal desideratum in Agriculture. In most of the affairs of human life, the more nearly we make our efforts of art, conform to the original design and example of nature, the more likely, I am led to believe, shall we be to attain general success: and the more correctly we observe and understand the process of nature, the better may we be enabled to regulate the imitations or improvements of art; and in none of our concerns, perhaps, will these observations better apply, than in agricultural pursuits. Thus if we turn our attention to the example of nature in contemplating the first objects of experiments, viz. the greatest product consistent with the stationary fertility and the progressive amelioration of the soil, we shall find that it is her uniform practice, to draw from the earth such an annual supply of timber, grasses, fruits, seed, &c. for the use of animals, as shall be sufficient for their reasonable wants, and still leave for herself a just proportion for continued improvement. The propriety of this remark will readily be conceived by any judicious observer, who has contemplated the progress of an old field, which having been taken new and fertile out of the hands of nature, was first exhausted by art, and then returned again to the just and salutary dispositions of nature: or who has observed the vast productions of timber, cane, &c. &c. in the extensive regions of the west, upon a soil whose fertility has at the same time in the hands of nature, been advanced to an inconceivable extent; and according to the ordinances of nature, there is little reason to doubt, but that she has given to the earth a capacity to supply all the reasonable demands upon her, and still to retain for herself, enough to improve her own condition in a ratio proportioned to the increasing demands of increasing animals.—Admitting that the interference of art tends to increase the number of animals, rather than diminish; she may also aid the operations of nature in advancing the improvement and useful productions of the soil, as experience has already demonstrated; and although it is unhappily true, that the instances of this fact, are not sufficiently numerous within our immediate vicinity, still there are not wanting instances; and if each member would contrive

by some means, to add one tenth part as much as has been added to the preservation as well as improvement of our soil, by the introduction among us of the system of horizontal ploughing by our first vice-president, we should see these instances multiply. By such generous and public spirited exertions and expenditures for the good of our friends and society, we may it is true, embarrass for a time our own affairs, or cramp the means of our own enjoyments, but by improving our soil, which is the soil also of our country and our own posterity, we shall at least live with the consoling reflection, that our efforts have been useful and approved by the one, and may die, without the reproach of having robbed the other of its rightful inheritance. But it is believed that a plan of experiments leading to the most extensive and useful results may be conducted so as in no material degree, to embarrass the most limited resources; for this purpose we should regard chiefly economy, just and easy calculation to enable us to apply facts and principles, the result of cheap experiments to extended practice, with exactness in all comparative circumstances. Accordingly, in making any experiment respecting the production of the soil, I would have the smallest quantity of ground that was susceptible of easy calculation, and the experiment upon this piece of ground to ascertain a required fact; should agree in every particular with that conducted upon another, to determine which was preferable. For this purpose I would first propose, that a convenient piece of ground should be secured by a proper enclosure from all intrusion or depredation; next I would have it laid off into squares or fields in miniature, exactly bounded and containing 4.125 feet that is $4\frac{1}{8}$ feet square, which is the 2560th part of an acre, each.—Now to ascertain precisely whether plaster of Paris was advantageous to a crop of oats, in proportion to the additional cost of using it; I would sow the same quantity and the same kind of oats upon two of these squares, after first reciprocating their contents, that is, I would mix for a foot deep each portion of earth contained in each square with that of the other, and then divide this equal mixture, equally between the surfaces of the two squares—here the soil and oats being as exactly alike as might be, I would roll one portion of the oats for one square in plaster—ascertaining the quantity of oats in respect to a bushel and the weight of the plaster; I would then sow them as immediately at the same time as possible, and of the same depth, and in the same order in every respect, and in every thing else, except the further use of plaster, on the one, and not on the other—their chances should proceed, pari passu, to the completion of their growth; I would then cut the product of each, level with the earth, and weigh the whole of each distinctly; then I would separate every grain of each from its own straw, and weigh first the grain of each parcel separate, and then the straw—to ascertain if one weighed more straw and grain together, whether the other might not have a proportion of superior grain, sufficient to give it the preference; and finally all these operations should be performed with rigid impartiality, without regard to received opinions, hoary tradition, the authority of a name, a favourite theory, one's own prejudices, or any other influence—than a steady regard to truth and the general interests of agriculture. By this experiment upon soil of a given quality, the value of the plaster would be ascertained according to one season, by extending the experiment through a succession of seasons, the relative value of the plaster, would be determined in more or less, wet or dry seasons.—The same experiment conducted upon poorer and richer soils, would not only lead us to the knowledge of the greatest product of oats. that a given quantity of ground was capable of producing; but also to the relative value of plaster on soils of different quality. I have heard it expressed as an opinion, that the poorer land is, the more plaster it requires and will bear, and e converso; but I am satisfied from my own observation, that from a just proportion of plaster applied to soils of different quality, the increased product from the richer will be greater; whether in exact proportion to the full sum of its superior fertility or not, I cannot tell, but I think it is probable it will; just as the interest of two sums of money, when this is made to act upon the principals, will give a profit proportioned to the amount of each—and there is this further parallel between the two cases; it takes about the same trouble for a money-lender to bring the interest of the borrower to operate upon a large sum, as a small one—it being very little more labour to write a bond for a thousand pounds, than for one pound; but the proceeds are always in proportion to the sum.—It is just so with the cultivator of the soil—his product is governed more by the quality of the soil cultivated, than the amount of labour bestowed.—Hence the importance of making land rich as fast as possible, and keeping it so as long as possible.

Upon the plan I have laid down, with equal precision and cheapness, ten thousand useful experiments may be completed, tending to ascertain and establish the best principles in husbandry, as—1st. The best depth to sow any grain, in a given soil and climate; and the best thickness.

2nd. What kinds of grain and grasses are most productive with least exhaustion.

3rd. What productions are most benefited by plaster, and what is the best quantity in general.

4th. What manures and what quantities of them are best.

5th. The relative value of the varieties of the same species of grain grasses, &c. and a great many others, which it is unnecessary here to enumerate—my object at this time, being only to propose a plan of precision, &c. in making experiments.—Whenever the principle of the experiment is ascertained upon our little field, the product there multiplied by 2560, will give the ratio per acre.—Before concluding this address sir, I cannot forbear to remark, that since we all cannot be lawyers, judges, foreign ministers and merchants; it becomes the more important for fathers to teach their sons to be useful, scientific and practical farmers; and this little plantation which I have laid down in miniature, would afford a good opportunity for giving them useful lessons in labour and virtue. Here they might, by habituating them to perform the necessary manipulations, be taught to invigorate their bodies and improve their constitutions—that labour is honourable, because it is useful—that in a well regulated government and society, whatever is dependant upon and connected with agriculture, will at last be most popular and respectable, because the most virtuous and independent, and because the great majority of mankind must ultimately look to it for a support; and finally, that if fashions and manners are made to take at any time, a contrary course in an agricultural republic, it is only because partial and corrupt influences, by cunning and artful contrivances, have blinded a people and misled them from their true course of interest and happiness; and the consequence must always be, sooner or later, a revolution in the government, or a reform in the practical application, of its principles to society.

FOR THE AMERICAN FARMER.

THE *PROFESSION* OF

A Planter or Farmer.---No. 5.

In the four preceding papers of this series, a view has been taken of the considerations, which should induce the landed citizens of the United States to set apart the collective pursuits in life which relate to Agriculture, as a distinct and respectable profession: and to form the *rising generations* of all present and future times, who are to be engaged therein by well devised, and appropriate systems of education. In the two latter numbers of the preceding four papers, the instruction of the pupils and candidates, in "*the profession of a planter or farmer*," during their attendance at the primary and common schools, and at the academics, was specially treated,

It is necessary, particularly to observe here, and it is believed to be one of the most important ideas concerning every form and subject of education, that the *domestic* instructions of young persons in agriculture, through the examples and conversation of their parents, and other members of their family and household, is one of the most sure, impressive and easy methods of teaching the rising generation. The fact, mentioned in the first paper of "Columbianus" *on cotton*, proves that a young female, under eight years of age, so distinctly and effectually retained her recollections of the cotton culture in the garden of her father, a planter and lawyer, as to narrate the fact at the lapse of twenty-five years, and to communicate it to her children; and to render it an excitement to the most serious course of subsequent practice throughout the cotton region of the United States. From a multitude of interesting recollections, as to the various branches of limited culture, the writer of this paper, though bred in one of our largest cities, in the strictest academic and collegiate discipline, well remembers a number of very interesting facts in gardening, fruitery, the breeding of animals, the culture of grain and grass, the draining and irrigation of lands, exotic plants, the structure of farming implements, utensils and tools, the culture of farmer's vegetables, the making of butter and home brewed liquors, the preparation of firmity and hominy, &c. &c. which occurred before the age of 14 in their city family, which owned and cultivated three pieces of land in the vicinity of Philadelphia, for purposes of economy, health and amusement. It is therefore, on the whole, most emphatically recommended, that the heads of families among the planters and farmers, pay the most constant and particular attention to the instruction of the male and

female members of their families from time to time, in all the useful arts of rural life. It will prove like the best seed, happily sown, in a fit soil, (which will exclude the seeds of noxious moral weeds,) sure to bring forth the best fruits in abundance, and in all future seasons, blessing all concerned.

After the education of the candidates for the profession of a planter or farmer, being thus made the subject of preparatory measures, not only in the common or primary schools, and in the academies—but, *in the houses of their parents, relations, connexions, guardians and friends*, a regular acquisition of that profession, in form, after the manner pursued in law, physic, divinity, commerce; the fine and the useful arts follow, as the next and final operation of agricultural and rural education. To this then, we proceed, with our closing suggestion in these numbers.

The proper time for the commencement of the career of *a student of practical agriculture*, appears to be, that when according to the property, plan, and course of the parent, the young person's education, in the schools, academies, colleges or universities, is considered to be ended and finished. Plain, sound educations, of the children of families not willing or able to be expensive, are often terminated at fourteen. Academic, collegiate and university educations in this country, in families of early and pointed attention; and among young people of good dispositions and habits, are seldom protracted beyond seventeen or eighteen. At the ages then of fourteen to eighteen years, the young members of families, intended by their parents and friends *for landed pursuits*, may conveniently become regular *apprentices, or regular students of *the profession of a planter or a farmer*, according to our proposition.

This important step in life, important to the youthful individual, his family and his country, may be be commenced and pursued in two modes:—1st—the young student, having assumed the *toga virilis*, may commence his new character, in the house, family and business of his father, or other near friend with whom he resides, and who has the care of his person, happiness and establishment in life. Secondly—the juvenile student may be placed in the manner of young lawyers, physicians, clergymen, merchants and artists, under the direction of a person of good moral and religious character, good manners and standing suitable landed possessions of his own or tenanted, of judgment, knowledge, experience, ingenuity, care, attention, good local situation and successful practice.

Whether our young pupil of agriculture lives with his father, as a practicer, or professor of planting or farming; or whether he lives as a pupil, with some other head of a family practicer, and professor, he is still to consider himself as engaged in the acquirement of the theory and practice of all the useful arts and secrets of country life. He is to be as useful on the estate or farm as he can be, and render himself daily more and more useful, by attending to the practical course of agriculture and the times, objects, and reasons of every act; not a blade of grass, or an ear of grain, nor a tree that grows upon the land of the estate or farm, is to be indifferent to him, or deemed foreign from his duties. The capacity of *attention*,—*effectual attention*—is the *first* human talent. Every thing is to be examined, considered, and methodised, inconveniences are to be watched, considered, prevented, removed or lessened. Every conversation on farming, every news paper article on agriculture, is to be heard or read. All useful books of agriculture, are to be read, or referred to by their indexes or tables of contents, to acquire knowledge for the daily business of the farm, or a stock of knowledge for the future. A book of memorandums of times, farmer's operations, crops, &c., ought to be minutely kept, and indexed, after the manner of a common place book. The conversations of strangers, should be turned to the subject of the cultures and productions of their neighbourhoods and countries, their soils, woods, waters, implements, and especially their climates. All spare money should be applied to the hire or purchase of farming books. Many may be borrowed, and should be carefully and neatly handled and preserved, and duly returned. Townships and county libraries by contribution, should be liberally encouraged and useful books should be presented by parents and friends. Evenings, days of rain and storm, winter, seasons of heat, times of sickly confinement, and all other suitable times, should be employed in reading, considering, noting in the memorandum book. Meetings of agricultural men and bodies, should be attended, in the modest manner becoming youth. The old and experienced, are pleased, and indeed best respected by such attentions of young and rising men. Notes should be made of subjects of inquiry, to be requested of the mature and experienced on such, and all other proper occasions. Matters of science in farming, can often be learned from the physician of the neighbourhood, and from his books. Cyclopædias, and other books of the arts and sciences, contain an immense stock of useful knowledge, which can be acquired by reading what is written under the *name* or *word:* such as cotton or wheat; sugar or ox; indigo or horse; tobacco or cheese; vine or hog; grass or pulse; various fruits, irrigation, horticulture, &c. &c.

It is very common in several of the professions, to give fees to men of established character for honour, abilities, knowledge and experience with young pupils, to induce the receiving them into their offices, and places of business. Some in the arts and trades of late, have asked and received the largest sums: and some refuse to take young men, especially in the arts, wishing to keep their business secret and to themselves; all which shows the utility and necessity of a regular course of application in the young learners of seven, six or five years. Sometimes, even in the cities, the person receiving, prefers to take the youth into his family, at board and bed: in some cases the youth only attends in the whole hours of business. Residence with the family would be necessary in the country.

Such are some of the suggestions, as a *mere outline*, of what appears expedient in this last stage of agricultural education. An attention to such a plan with daily, monthly and yearly improvements upon it,—by reflection, care and exertion, would facilitate and effectuate the formation of the regular character of "*a professor or practitioner of the liberal arts and pursuits of the planter and farmer*, to the immense benefit of our country—the happiness and comfort of parents and guardians—the honour and interest of the rising generation—the respectability of the landed profession, and the purest fame of our young nation.

It is a fact, in the circumstances of busy life for the purposes of liberal gain, that it is not possible, in any other profession, to derive from our female connexions so large a share of useful and judicious aid, as in the various branches of agriculture. The dairy and its profitable and comfortable fabrications; the kitchen garden; the more exquisite fruitery, and the busy hives of bees, making our houses literally flow with milk and honey; the whole system of household manufactures, our home made farmer's fomented drinks, and the whole variety of culinary objects constitute, in the hands of our wives and daughters, a province: a department in rural affairs, nearly all their own. Their happy talents in superintending the farmer's assistance,—their domestic habits subjecting the interior and contiguous apartments to their constant observation, prudent management and decorous order during the frequent avocations of their husbands and their sons,—their natural characters as the friends and counsellors of our bosoms, the superior purity of their moral and religious characters—their familiar practice of doing things by written *recipes* and settled rules—their general separation from the practice of all other professions certainly fit—prepare and dispose them to the acquisition of agricultural knowledge, and skill in the course of its economical and regular practice. It is earnestly advised, therefore, in regard to the tender sex, that in addition to great present acquaintance with culture, every possible attention be paid to forming their faithful minds in the same knowledge of rural affairs, which we have here proposed to give to our sons. The cheap and sure contribution, which this measure will afford to the virtuous and permanent resources of the sex, is manifestly a consideration of the utmost importance in value, as it is of the deepest interest to our best feelings, and our most rational expectations. The opportunities of a well educated woman, to read and select for her busy and active husband, are as much greater than his, as the ties of women at home are more favourable to such employments, than the unavoidable avocations on the estate and on journeys of their male connexions. The wisest, the purest, the most prudential, the soundest economical considerations, ought to decide us to take care that our female friends be well instructed from their earliest days, in all the proper details of the most approved cultivation, rendering them the best and purest friends and associates of their husbands, and the safest companions of their brothers and their sons.

CINCINNATUS.

* *From apprendre*, French, to learn. There is nothing degrading in the expression, or character. To apply the mind of a young person to any profession, is to learn that profession, as the person's pursuit of the business of life. Our language has no other appropriate word to signify a person learning a profession, or occupation for practice.

FOR THE AMERICAN FARMER.

SMUT IN WHEAT.

Eastern Shore, June 17th, 1820.

Sir,—I have the misery to inform you that the most terrible of all diseases to which the wheat crop is subject, what we farmers know as the fœtid, stinking smut, has made its appearance in several fields in Talbot. And as there was no smutty wheat seeded last autumn; indeed, I have scarcely heard of an affected head since 1816—I fear that it is the effect of some peculiarity of the season, or of the attack of a peculiar insect, that produces the malady, and that it may therefore be extensively destructive.

As this calamitous distemper is generally believed to be infectious—and as the fœtid black powder of one sick head will infect a thousand of its well neighbours, not only to the injury of the flour, but of the seed wheat; and, if not prevented, will carry its ravages with dreadful increase into the next crop, we must entreat your immediate assistance and directions.

Can any thing be done before the affected crop is cut by way of separation?

The cutting, handling, binding, shocking, inning, stacking, treading, or threshing, every different operation, will tend to break the black balls, scatter the powder, and spread the infection.

Do give us the best directions for preventing these sad effects.

The learned, I believe, call this malady, ustilago.—My present impression, as to the next crop is, that whoever has the misfortune to have his present crop thus affected, had best get entirely rid of it, if he can possibly obtain seed wheat, that has never been infected by the same disease. The utmost attention should also be paid to purging your barn and barn-yard, of the infectious powder. Thorough scouring and whitewashing your barn, is among the best modes of cleansing it. If a change of seed cannot be effected, much is to be done by cleansing your own seed.—The best and most expeditious mode I know of, is, thorough washing and liming, as much every morning, as you will seed that day.—Thus, place your wheat in a slipwood basket, or baskets wove so close, as to prevent the grains from going through.—If you are on the salt water, this is to be preferred; take your basket of wheat into it, and wash it perfectly, rubbing it well, and frequently holding it up, to drain off the polluted water, and immerse it in another place. Next to this, use brisk running fresh water in a stream, or from a pump, or even an elevated tub · but, in every case, let the washing by hand, rubbing and passing the water through, and also scumming off what floats, be perfectly done.—While the washing is going on, let your lime be slacking in the proportion of about one bushel of the best lime you can obtain, to five bushels of wheat—and while your lime is yet quite warm, and your wheat drained, but the grains yet wet, mix them well together, and the more you stir and rub them the better.

But sir, you know vastly more of this matter, than I possibly can.—My crop and my neighbours' crops are sick, and stand in grievous need of a physician: and we will be deeply indebted to you for useful advice.

Your obedient serv't,
RUSTICUS.

FOR THE AMERICAN FARMER.

MR. SKINNER,—Having seen many valuable communications in your paper, the "American Farmer," on the subject of the different disasters to which wheat crops are subject to, at different stages during its growth; and as there is a general complaining of the effects of one of those disasters, in the crops now growing, viz.: (the fly,) and the time nearly approaching when another generally makes its appearance, I mean the smut, which I rather conceive to be the worst of the two.—I think it advisable for persons generally, to throw out such hints and remarks, on the different disasters incident to our crops, as might be suggested by or known to them.

Smut is a disaster in wheat crops, generally known, the effects of which have been known and felt by farmers in many parts of Europe, for a century; yet have only been partially felt in the United States, until some years ago—since which it appears yearly to be extending its progress; and although many able pens have been employed, both in Europe and the United States, on the subject, nevertheless, the real cause of smut, appears not yet to be known to a certainty, which appears evident, by the different causes assigned, by the different writers on the subject.

Several valuable pieces on the prevention of smut, have appeared in your useful paper. But when once the real cause of smut is known, the attention can be more satisfactorily employed, in suggesting ways and means to prevent the evil.—Although I have not been injured by the smut in my own crops, yet I have for several years (when an opportunity offered) turned my attention to the subject, to discover whether any of the causes (which I have seen) assigned for the smut, could be reconciled by inspection and practical experiments; but I have not as yet been able to satisfy my mind fully, that either of the many causes, which I have seen assigned, is the true one, and I am strongly led to believe, that the smut in wheat is produced by a very different cause, from any that I have yet seen given, or heard of. Some of the leading motives which induce me to believe so, I will briefly state.—Some short time previous to the harvest of 1818, several of my neighbours informed me, that there was considerable appearance of smut in their wheat crops; I took the first opportunity of leisure time to examine their crops, and found in one of their fields (in my estimation) about one fifth of the wheat, smut. I examined the smutty heads of wheat, and found several heads, part of the grains of which were good, when the other part of the grains in the same head were smut; this began to make me doubt the correctness of the causes generally assigned for the smut, as I could not reasonably reconcile the causes given, with the facts discovered in examining the smutty wheat. Some days after, I took up several stalks of smutty wheat, for the purpose of examining every part of the roots, stalks, and heads thereof, minutely.—I was very careful in taking up the stalks, to take up every root (as far as practicable) to have an opportunity of fully examining the roots, in the first place—to see whether I could discover any defect there, which might be the cause of the head not producing sound grains; I examined the roots carefully, and compared them with the roots of stalks of good wheat, but could discover no cause in that part.—I then took a sharp pen knife, and carefully split several of the stalks, from the root to the top, and carefully examined the joints, and insides of the straw or stalk, and compared them with other stalks of good wheat, split in the same manner, but could discover no defect, which I could reasonably suppose to be the cause of the smut.—I then took several heads of the smutty wheat on a smooth plank, and carefully opened the chaff which enclosed the grains of smut, and took out the grains, examining every part of the chaff or covering, out of which I took the grains, but discovered nothing material to my researches—I then turned my attention to examining the grains of smut, (on the board) which I had taken out of the heads. From the shape of the grain, I was led to believe, that there must have been some waste of the inside, while in the milky state, (in which state the smut makes its first appearance in wheat.) I then, with my pen knife, cut several of the grains through the middle, and carefully took out the black substance out of the shell, or bran of the half grains with the point of my knife, carefully examining the different particles as I brought them out of the bran; but I had not examined many half grains before I discovered a speck of a different colour enclosed in the black substance, or smut, and on minute examination, found it had the appearance of a small maggot. I found similar appearances in several other grains of smut at the same time. Some days after I went to another field to examine the grains of smut, in the manner I had done before, and on further examination, found that the substance of a different colour, contained within the black substance or smut, was actually a living substance, and resembled a small maggot—and on succeeding examinations found them larger, and more conspicuous, and when taken out attempted to crawl—and by the time of the harvesting, I found many that had arrived to that state of maturity, that they were cutting their way out through the shell or bran of the smut grains, which enclosed them; on further examination, after the wheat was cut and in stacks, I found that numbers had cut their way through the bran of the grain, and through the chaff enclosing the grain, and had disappeared—similar examinations, previous to the harvest of 1819, produced similar results.—I also had turned my attention (the last year) to discover what could produce the living insect which I had found to be contained within the grains of smut, and have satisfied my own mind, that the living insect in the grains, is the offspring of an insect, which insect is the cause of smut; and by considering the effect of instinct, I think it may (quite satisfactorily) be traced to its origin.—Should you think this scrawl worthy a place in your paper, or that it might have a tendency to draw the attention of some person of more ability to the subject; please insert it, hoping the reader will excuse the phraseology, being the production (only) of a plain

FREDERICK COUNTY FARMER.

P. S. If time permits, I will hereafter give a fuller detail of my experiments, and impressions, relative to the subject, and the insect which I think is the cause of smut.

FOR THE AMERICAN FARMER.

A New Threshing Machine.

MR. SKINNER.—The avidity with which the numbers of the American Farmer, are sought for, and the pleasure with which they are perused, is very gratifying to those who consider agriculture as the principal support of our national independence—your excellent paper has derived much importance from the particular attention you have given to the description, and recommendation of labour saving machines.—The United States are differently situated from any other nation; land is cheap and abundant, labour is scarce and dear—and whoever invents an instrument whereby two days labour can be performed in one—is as much entitled to the gratitude of his fellow citizens, as *him* who teaches them how to produce two grains of corn where only one grew before. In travelling through the different sections of this country, a man cannot but observe the labour and expence of separating all kinds of grain from its straw. In New England threshing is in general performed with a flail—10 bushels out of the hundred, is there considered as a fair compensation for threshing—In New York, Pennsylvania, and amongst the Germans of Virginia, and several other states, treading with horses and cattle is the customary method of getting out grain.—This though more expeditious than beating, is very objectionable. The grain will be *gritty*, *filthy*, and often gets *wet*; this reduces its value in the market.—The miller always preferring that which is threshed with flails or machines. Moreover, the horses employed in treading are always injured, and often ruined. Their violent exertion, instability of footing, circular movement, together with the hot sun of August and September, are sufficient to explain the fact. The section of country east of the Blue Ridge, and in some parts of Maryland and New York, are the only places where I have seen machines for threshing grain much used.

These machines although of much utility, are not in general well adapted to the purpose proposed.—They are expensive, complicated, and in a majority of instances, do not thresh perfectly clean. If any heads of grain pass unthreshed, they are gone for ever.

Enclosed I send you a drawing of the machine lately invented by Mr. Ransone, of Matthews, Virginia,—which machine I deem much superior to any thing of the kind I have ever seen. This drawing which is taken from a small model, is only intended to give an idea of the principles upon which the machine is constructed.—Braces, hoops, and other minutiæ, being omitted to prevent confusion.—It consists of two wheels, two floors, a lever, and a thresher. In addition to this I would observe, that the proper method of making the lower floor, is by excavating the side of a hill of such ascent as to form it on the bottom of an under-ground room. This will enable the grain to be threshed to be placed back of the machine, upon a level with its upper floors—from whence it is easily brought to be spread upon it. These floors should be 36 feet by 40, both surrounded by a circular hoop, 12 inches in height, and the upper floor latticed in such manner as to let the *grain* pass through, but to retain the *straw*. The *team* attached to the lever, walk outside of the hoop on the lower floor, while the grain falls within it. The thresher is a solid wooden cylinder, 12 inches in diameter, and seven feet in length, filled with long teeth or cogs, which are graduated to the circle of the hoop, on the upper floor;—within which it travels at the rate of about 12 miles an hour.—It is fixed in a frame, which is attached to an arm projecting from the shaft of the second wheel, about 3 feet above the upper floor.—The number of threshers may be increased in proportion to the strength of team and machinery. The thresher makes 4 revolutions in the same time that the lever makes one. Each flooring of grain requires turning once, at which time it is necessary to stop the machine.

The advantage which this machine possesses over all others that I have seen, I conceive to be—*First*, Its cheapness, the cost is estimated at about $100.—*Second*, The possibility of threshing all kinds of grain perfectly clean with it; also of threshing corn.—*Third*, Less danger of injuring the *hands* employed in working it.—*Fourth*, The difficulty with which it *can* be deranged in its operations, and the ease

with which any derangement can be repaired. Machines, like governments, are generally useful in proportion to their simplicity. The excellency of both depends upon the fitness, and connexion throughout; and where either are too much incumbered with straps, and bands and wheels within wheels—some *part* is too often out of joint, to the annoyance of the *whole*. *Fifth*, The facility and cheapness of working it.

Three horses, or a yoke of oxen and a horse, are a sufficient team; two good hands and a boy can tend it.—This force will be sufficient to get out from one to two hundred bushels per day.

The *despatch* with which a crop of wheat can be prepared for market, is many times an essential consideration. The market is often *best* in the most busy part of the season, when few hands, and few cattle or horses can be conveniently spared from the plough and other employments.

These considerations have induced me to present you this brief sketch of observations, and if you think them of any value to the agricultural interests of our country, you are at liberty to publish them.

Yours respectfully,
AUGUSTUS M. HICKS.

Matthews, Va. May 27th, 1820.

FOR THE AMERICAN FARMER.

Is Salt a Manure?

Much difference of opinion has prevailed with respect to the value of salt as a manure, and I think it is the duty of farmers, *who have it in their power*, to make accurate experiments to ascertain its effects—writers differ very much in their opinions.

In Young's Annals of Agriculture, vol. 5, page 149, it is stated by Mr. Legrand, that the proper quantity is 16 bushels per acre, and he highly recommends it as a manure in that proportion. In the memoirs of the Agricultural Society of Philadelphia, is a communication by (the Arthur Young of America,) Judge Peters, stating, that it succeeded best with him, when sown in small quantities, say one bushel per acre; but although he was not pleased with his experiments, he does not discourage others from trying it. Judge Peters is a very close observer, he has given much of his time to agricultural experiments, and his opinions are entitled to great respect; his ideas, and experience, are *always* given with much candour, but I presume the Judge has not made much use of salt as a manure; for if, as Mr. Legrand says, 16 bushels is the proper quantity per acre, the article is always too expensive, to be applied to land, as manure, in the vicinity of Philadelphia. And the Judge has chosen another hobby,* on which he has triumphantly mounted the hill of fame, and I query very much, whether there is, or has been a man in the world, who has contributed so much as he has done, to give to gypsum, its value and proper character.

To recommend impracticable, or too expensive, applications for the improvement of land, renders very little service to the great mass of agriculturists. Gypsum is cheap and powerful and can be generally applied; lime, in the vicinity of lime quarries, can be procured at a moderate price, and perhaps it makes the most permanent improvement of land; but if you would recommend the application of lime to an Eastern Shore farmer, *who is not in possession of a bank of shells*, as the best means of improving his lands, he would tell you at once, it is not in his power to procure it, and that he cannot apply even 50 bushels of lime, which would here cost him 30 or 40 dollars, to an acre of land, which would not sell for twenty dollars, and fifty bushels of lime is a light portion.

If salt will enrich land, and I cannot doubt it, how easy would it be for all the farmers who own lands, or reside on the sea, bay, or salt water river shores to fertilize their lands with the salt waters? If salt is a manure, the salt waters afford an inexhaustible source, and the mode of application might be made cheap; carts could be constructed, water tight, and one hand, with a good team, and water cart, would pass over much more land in a given time, than could be manured by the same hand from a manure heap, if the distance from the stable and shore were equal.

I am so situated, that I cannot manure with salt or lime, and I have noticed this subject, merely to draw the attention of those, who might be benefited by their proximity to salt waters. Every farmer conveniently situated, might make the experiment this season, on his young corn, or on his grass lands, on a small scale. I believe, if pure salt will improve land, the bay or river water would be equally fertilizing, if applied in proper quantity; it is combined with vegetable matter, constantly passing into the rivers and creeks. The grass which is collected on the bay shores, driven up by the wind and tides, is known to be a very valuable manure. The vegetable matter impregnated with salt, has a powerful effect.

I will beg leave, with great deference, to suggest to those who own marshes on the bay or rivers of the Chesapeake, another source from which their lands might be improved. Those marshes are generally covered with coarse ordinary grass, which cattle will not eat heartily, after the early part of the season, and it has taken such entire possession of the surface, that no other grass can grow there. If those marshes cannot be banked and made to produce a more valuable crop; the tussocks which might be raised, and dryed and burnt, would produce an immense quantity of fine ashes. If any farmer will try an experiment, on making that kind of manure, he will be astonished at the quantity an acre will afford. If it is profitable to burn clay, or mud for manure, how much stronger would the ashes be, made from those fibrous tussocks, composed almost entirely of vegetable matter. I have had some experience lately on burning tussocks, and was agreeably disappointed to find the bulk diminish so inconsiderably. I have made these remarks to invite the attention of others to the subject.

A.

*On reflection, I think this word is improper, but I will let it remain. I am sure the venerable Judge will only smile at it; I do not mean to disparage, but to extol him, for his indefatigable exertions to improve the agriculture of our country.

FOR THE AMERICAN FARMER.

ON PHTHISIS PULMONALIS, OR Consumption of the Lungs.

By Dr. Eli S. Davis, of Abbeville, (S. C.)

Men are too much in the habit of referring the generation of disorders to the influence of climate. Gibbon says that, the severity of a winter campaign that chilled the courage of the Roman troops, was scarcely felt by the hardy sons of the Danube, who in their turn were unable to withstand the summer heats, and dissolved away in languor and weakness under the beams of an Italian sun.

Now had this able historian said they were unable to resist the licentious habits, and exquisite luxuries of Italy, he would have perhaps been more correct in his induction.

I wish it not to be understood however, that I deny altogether the influence of climate on the human constitution. I am free to acknowledge, and shall attempt to prove its happy operation in the cure of the disease under consideration. Sydenham in discussing this disease appears to have confounded it with hypocondriases, and from the brevity with which he treats it, I presume the consumption was a disease less common, and far less fatal than at the present day.

Indeed, one would suppose that it was a mere digression into which he had fallen, for after devoting but a few remarks on consumption, which appear rather incidental than studied, he says he must return to the business on hand. What this business is we must judge from the context of his book; from which we very readily perceive that the subject of illustration is epidemic diseases. I am thus minute in order to shew that consumptions were not so mortal or so frequent in times which were distinguished for their rustic simplicity. I will now proceed to state the remote and exciting causes of consumption. It is proper to remark however, that pulmonary consumption is induced by predisposing debility. Its exciting cause is exposure to alternate heat and cold. Its remote causes are numerous; such as asthma, scrofula, grief, intermitting fevers, measles, repelled eruptions of the skin, intemperance, external violence acting on the chest, viceral obstructions, humid state of the atmosphere, and in short every thing that has a tendency either directly or indirectly to expend the energy of the system. From the general debility with which the disease is preceded, and the causes which produce it acting so universally upon the system, we must believe it to be a disease of the whole system. This is the opinion of Dr. Rush, than whom there was no better judge. In evidence of this fact, he introduces the testimony of diseases obviously belonging to the whole system, with which consumption often alternates. In the year 1770, Dr. Fothergill appears to have viewed Phthisis Pulmonalis with that scrutiny and close research which the importance of the subject demanded. The changes which took place in society about this time seems to have made a correspondent change in the aspect of diseases. To aid practitioners Dr. Fothergill has given a review of his observations in three memoirs, addressed

to the medical Society in London, from which I must beg leave to make the following quotations.

"When we consider the structure of the lungs, the tenderness of their fabric, the importance of their use, the many accidents they are unavoidably exposed to, and in comparison with many other parts, their insensibility to immediate lesion, we shall be more surprised there are so few persons die of consumption, great as the number is than that so many perish by this distemper."

"The time at which a physician can be of most use in the cure of consumptions, is at their first beginning. The slightest catarrhal de-fluxion ought not to be neglected if it does not go off in a few days. The beginning of most consumptions is a cough more or less violent. This cough is produced either by a thin saltish defluxion, irritating the membrane that lines the trachea, so as to bring on a general spasm of all the parts, in order to dislodge and discharge the irritating matter, or else by an inflammation of some part of the lungs or bronchea, produced by one or other of the general causes of inflammation."

Inflammation of the lungs usually terminate either by resolution or suppuration. The first is not so productive of permanent and dangerous consequences as the latter, but both should be sedulously guarded against. When a suppurative state of the lungs occurs, the extent of injury inflicted is generally commensurate with the predisponent causes. If, says Dr. Fothergill, the inflammation terminates neither by resolution nor suppuration, it often leaves a schirrous hardness, whereby this particular part of the lungs however small and confined, becomes of little or no use in the economy of this organ, but by occasioning an obstruction of circulation and respiration in one single point, subjects the sound parts of the lungs to greater labour.

This partial induration of the lungs I have witnessed in several dissections; an induration, not very dissimilar to that which takes place in the liver during hefratilis.

The very able experiments of Spallanzani, furnish many useful ideas on respiration, and consequently develope much necessary information in relation to that important viscus, the lungs. In page 105 of his memoirs on respiration, he states that the common air which we inspire contains 0.27 of oxygen gas, and 0.73 of azotic gas, not taking into the account the very small quantity of carbonic acid gas which is mixed with it, but in inspiration the oxygen gas is very much diminished and with the oxygen and azotic gas remaining in the lungs, we find intermixed a considerable quantity of carbonic acid gas. I introduce this paragraph not so much for its accurate division of the component parts of the common air we inhale, as from a wish when treating of consumption, to never lose sight of the importance of the most minute operations of the lungs.

The astonishing rapidity with which chemistry is advancing, and its successful application to the physiology of the animal body, disclose facts in regard to animal organization, as practical as they are brilliant.

A knowledge of the phenomena of respiration, and the accuracy with which the atmospheric air can be chemically graduated, reciprocally contribute to aid our perceptions when considering the subject of consumption.

(*To be Continued.*)

On the use of Oxen and deep ploughing in New England, by JOSIAH QUINCY, *Esq*

[Communicated for the American Farmer,]

BOSTON, Nov. 2, 1817.

MY DEAR SIR,—In reply to your inquiries in your last letter I answer:—Oxen are used almost wholly for plough and team work in this quarter of the country. A single horse is usually kept by our principal farmers, to go to mill and to church, and for the convenience of the family. Occasionally he precedes the oxen at plough or on the road. This is so universal as to be almost without exception among mere farmers. They certainly answer all purposes except, perhaps speed; and in this, on a long journey, they are considered as quite equal to horses. But of this our farmers have not many opportunities of comparison, oxen are so universally used. They are "worked" with yokes, and "broken" when very young, pretty much as men break horses. Our farmers are so satisfied with their utility and economy that no argument would induce them to change.

A very good yoke of oxen will cost, when well broke, and about five years old, if well matched and of good size, from 80 to 100 dollars. They continue good without accident and with good usage, until ten years old; then they are usually fatted, and bring from the butcher according to their size and fatness, from 100 to 120 dollars.

Whether oxen are not more susceptible of *heat* than horses, I am ignorant. My opinion is that they are. A circumstance in your climate to be ascertained in forming an opinion of their comparative utility.

With respect to "deep ploughing," a considerable change is producing in this state, in the opinion and practice of farmers in this respect. Deep ploughing begins to be more general than formerly. I should state *five* inches to be the most approved practice on turning up the sord for corn. With respect to deepening it for other crops after the sord is broken, it depends upon the nature of the crop and the resources of the farmer, and also the state of his soil. My own rule is never to lay down land to grass until it has been turned up to the depth of *fourteen inches*. But my practice is peculiar, as I carry a regular succession of, 1st corn, 2d potatoes, 3d carrots, 4th grain, 5th grass, over my whole farm; considering, as I do that *carrots* is of all farm products the most profitable,* and using them as the test of the actual state of the depth of tilth on my farm.

Undoubtedly when the depth of ploughing pass the old tilth, and enters upon the virgin soil, "manuring" must be in proportion to the depth of the virgin soil, which you turn, otherwise you sacrifice present crop to future crops;—a practice very discouraging to any farmer.

I enclose you the newspaper account of our last cattle show. A more detailed statement will appear in our Repository.

Respectfully,
I am your humble servant,
JOSIAH QUINCY.

GEORGE W. JEFFRIES.

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* We should be glad to know if Mr. Quincy adheres to this opinion since the culture, uses and product of Ruta Baga and Mangel Wurtzel are better understood.— *Ed. Am. Farm.*

FROM THE PLOUGH BOY.

TO CLEAN FLAX SEED.

Mr. Southwick.—I will give you my plan for cleaning flax seed. You are at liberty to publish it in your valuable paper if you think it worthy of notice.

Make a comb of wood, similar to the wood comb, only one row of teeth; bore a hole in the middle post of your barn: a boy of ten or twelve years will comb off bowls enough in one day for any farmer's seed. When this is done, take your wheat riddle and riddle the whole, leaving the bowls by themselves; clean your floor, thresh the bowls—after which run through the mill, and your seed will be perfectly freed from all kind of foul seed.

Any mechanic can make a comb for 25 cents. Take hard wood, six inches long, split it half or three fourths of an inch square; try out 2 inches for the butt end—taper from this to the point in the shape of a hand saw file, only the point verging upon one side, so as to leave one side perfectly flat and straight; set the teeth in a mortar or groove, cut on purpose, with the flat sides all one way. This done, put a stem or handle in the piece of wood which has the teeth in; drive this stem in the post (as above) firm, with the teeth inclining towards the post. A.

P. S. If any farther description be necessary, I will endeavour to explain more fully.

FOR THE AMERICAN FARMER.

Queen Anne's County, June 22d. 1820.

MY DEAR FRIEND.

On examining my wheat this morning, I found in a small lot of blue straw of about 1½ bushels seeding, that it was partially effected with the disease called the Smut. A few heads of smut were also found among my white wheat, of which my crop principally consists.

As the smut is by far the most destructive malady that can assail the wheat crop, when any considerable proportion of it is affected, converting by its offensive smell and character, the whole crop into a fetid mass of impurity; I was induced to examine the agricultural books in my possession for the origin and remedy of this disease. In the first volume of the A. Farmer, page 269, I found an account given of this disease, by F. Blakie, Bailiff of the Earl of Chesterfield, the origin of which he ascribes to inoculation in the seed wheat, from an intermixture with the black *fetid* dust of *smutted* wheat, and recommends different steeps of the seed wheat as a preventive. This is a disease, I have never before seen in wheat, and is of late and rare occurrence on the E. S. of Maryland, and I believe in this country. Although my experience must necessarily be very imperfect, and consequently I feel indisposed to controversy with the bailiff of his lordship, either with regard to the *proximate* cause, or *efficiency* of the remedy he suggests—yet while I am inclined to doubt the cause he alleges for the disease, I should rejoice, though I can hardly hope, that he has recommended an efficient remedy.

The wheat which grew from the *seed* of the smutted blue straw I have mentioned, was picked out to the amount of a half gallon, from a half bushel of mixed wheat that was *entirely* unaffected with smut; and the *seed wheat* of the present smutted crop, was *equally pure*; which evidently evinces, that the smut in this case, and most probably in all others, arises from some other cause than the one suggested by the bailiff of his lordship. I am much inclined to believe this disease originates from a puncture made in the grain of wheat, by a small black bug about the size of a flea, after the grain has, or nearly so, attained its natural size, though yet remaining in a green and succulent state; which puncture *speedily* converts it into *nauseous putridity*. Almost invariably more or less of those small black winged bugs were found busily engaged on the heads of wheat affected with the smut; which were alway the most green and

succulent, and the grains affected, exhibited this puncture in the side or end. In examining my white wheat for this disease, a great variety of insects were found on the heads of wheat, but very seldom on the heads affected with the smut; yet whenever those small black bugs were found on the wheat, if in a green and succulent state, the heads are almost invariably affected with the smut; and from the exterior of the grain being found still green, while the interior was black and fetid, I am disposed to think, they produce this effect very speedily. Should the smut originate from those bugs, as suggested, it is very doubtful, whether *any process* to which the seed wheat can be subjected, would avert their direful devastations.

I hope some of your intelligent and patriotic correspondents, will give you their opinion with regard to the course of this disease—for although like the hessian fly, we may not possibly be enabled to avert its ravages, yet a correct knowledge of the cause, may at least prevent much useless trouble and expense, and afford the best guide in quest of remedies.

I send you herewith some of the bugs to be examined with your magnifying glasses, and minutely classed and described, should you deem it necessary. And presuming you have never seen the smut wheat I send you some heads for your inspection—Should you find herein, any suggestions that may lead to utility, they are at your service without my name.

Your friend.

[Some remarks in our next.]

Ed. Am. Far.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 30, 1820.

☞ The proceedings of the agricultural society of Maryland, with the valuable address of the President thereof, will appear in our next.—We are happy also to acknowledge the receipt of Judge Earle's, delivered before the Agricultural Society of Queen-Anne's County—where we hope justice will speedily be done to that much abused soil, for which providence has done so much, and human skill so little.

These addresses have been precluded by others previously received. It is not desirable to have more than *one* article of the kind in the same paper, and the farmer must observe the *Miller's rule.*

☞ The letter of Mr. Singleton on *Marle*, is in type and will be in our next, with the letter of the farmer who sent it—unless forbidden to publish it.

☞ A Maryland Farmer, is informed that many communications, equally pressing, though not more interesting than his—have been on file, some of them more than two months,—It shall either appear very soon in the Farmer, or be disposed of to his satisfaction; for we perceive he has the liberality and good sense, not to be offended with the Editor for not "*pleasing every body.*"

☞ Editorial Engagement Explained.—The greater number of our subscribers, have closed with the proposal to have the actual receipt of each number of their paper *guaranteed.* It is therefore proper now to make it known to them, that in writing for missing numbers, they will be expected to aver distinctly that the number or numbers called for were never received. It cannot be expected of the Editor, that he should resupply his subscribers with such papers as they may have lost or permitted to be destroyed. He has no printing office, nor any concern in or knowledge of the printing business.—The Farmer is put out to be printed—and each number therefore, costs a specific sum to the Editor. Every subscriber, whose paper does not come to hand in due course of mail, is requested to wait the arrival of another mail, and if not then received, we shall expect to be *immediately apprized* of it.

THE CAUSE OF THE PLOUGH,

Or reflections drawn from reading an account of the last Holkham Sheep Shearing.

The difference in profit to the United States, *between good and bad cultivation*, is a primary object, which cannot be rendered too manifest to our cultivators, our statesmen, and our men of industry of every description. We not only have our own experience, knowledge, and learning, and the gradual introductions of rice, indigo, cotton and sugar, which were not cultivated in the metropolitan countries, from which our population has been principally derived, but by a sufficient knowledge of the languages of the modern civilized nations, by means of good books of travels, translations, and especially by means of written works from our late sister states. And in the books and example of England, we may have a most entertaining and profitable mass of knowledge in agriculture, and all the relative arts courting us to mental pleasure, individual profit, national honour and prosperity.

This train of reflection has been produced by the perusal of a copy of the report of the agricultural entertainment of three days, given in the first week of July, 1817, by Thomas William Coke, Esq. of the parish of Holkham, and county of Norfolk, in Great Britain.

This distinguished British farmer came to his paternal estate, all in that county, in the year 1775, when its whole annual rents amounted to 2200*l* sterling. A large portion of this estate, which was situated in several adjoining parishes, was then let at three shillings sterling per acre, free of tythes on a long lease. Another lease was attempted, for 21 years, at five shillings per acre. But the tenant declined it from mere prudence. At that time *wheat was not raised in the district*, and Norfolk is not a country for maize, grape vines, and other productions of France, Spain, and the United States. *It was believed that wheat would not grow there.* The system of farming was very bad, and the produce was of little value, so late as the year 1775. Now, in the wettest summers scarcely a weed is to be seen on Mr. Coke's estates, for he extirpates them by every care and means, as *the wasters of the nourishment of his various crops.* After reaping his wheat of which he makes noble production, his ground is as clean, as his barn floor. Young men from Germany, are sent over to reside with this gentleman's tenants *to learn the noble art of culture*, for his fame has extended to the European continent. Since Mr. Coke came to this estate he has been able to advance his rents in Norfolk to 20,000*l* sterling per annum, having made his old or poor farms of 3*s.* and 5*s.* per acre, worth 30*s.* sterling per acre, though he is not in the vicinity of any large town. *English South down Sheep*, for fine wool and carcass, common turnips, sweedish turnips called the *Ruta Baga*, the yellow Scotch turnip, mangel wurtzel, saint-foin, the clovers, large and excellent crops of wheat and barley, the succession of four or even five different crops, the use of the pulverized rape seed oil-cake as manure, improvements in the whole system of manure, irrigation wherever practicable, the drill and horse-hoeing husbandry, liberality in the quantity of seed, the Devon breed of cows, immense *plantations* of 1500 acres of wood land or forest trees, building for himself and his tenants from his own wood and timber, improvements in the instruments, implements and utensils of agriculture, increased population, the finest breeding animals, flagging thin grounds with grass sods of 3½ inches, and all the modern novelties and improvements in culture invented or imported by Great Britain, have been the means of this great improvement of Mr. Coke's estate. The best moral consequences have accompanied this increase of value, crops, and rents, one strong proof of which is the actual demolition of the poor house, always before necessary in the three adjoining parishes, is no longer requisite for so well employed a population. The number of separate farms on the estates is twelve more than when Mr. Coke received them by descent, or purchase, for he has bought more lands with his profits, and extended his improvements to them. The merino sheep of the country, exhibited to the numerous guests at the shearing by a respectable neighbour, were admitted by a large company of proprietors, farmers and tenants from the three kingdoms, to be the best they had ever seen.

It appeared to be an object of the British government, promoted by this great farming assembly, to send some of the most judicious farmers of the east of England over to the Netherlands, to examine into and learn wisdom from the farming of that rich and highly cultivated country.

The most valuable writings on agriculture, were topics of conversation among the noblemen, gentlemen, clergy, physicians, lawyers, officers of the army and navy, and other persons of reading collected at Holkham! Such as Sir John Sinclair's *code of agriculture*: Sir Humphrey Davy's *elements of agricultural chemistry*: the voluminous and important publications *of the British Board of Agriculture, &c. &c.* The questions of preference between ploughing with *oxen* and *horses*,—the *drill* and common *plough* husbandry—the *merino* and *South down* sheep—*long* and *short*, leases—the union of capital and skill, or *large* and *small* farms—with many others important to agriculture were agitated.

It will appear to ample satisfaction and decided conviction that there are few branches of natural philosophy, chemistry, natural history, mechanics, &c. which may not be profitably applied especially on those extensive bodies of land, which are yet in the hands of many in the United States. To take the utmost advantage of these, the cultivator ought to be a man of education, and disposed to use books of prompt and easy reference, and to read in evenings, inclement seasons and other leisure times. He should be so far prepared by education, or by the proper and necessary reflection or excitement, as to be competent and disposed to his own progressive scientific improvement, by reading, observation and intercourse with intelligent men. Few, who soberly and energetically pursue this course for a series of years will not fail to add materially to their own fair and honourable gains, to the general prosperity, and to the respectability of "*the profession of a planter or farmer.*" Doctor Coventry, the professor of agriculture in the University of Edinburgh, regulary illustrates the actual and extensive connexion of the cultivation of the earth with natural philosophy, comprehending chemistry, natural history in its several great departments, particularly the vegetable, and the physiology of vegetation, as it stands connected with the growth of cultiviated plants. Well educated men, whose intellectual powers are judiciously and actively employed in any useful art, effect more, and at a less expense, than much greater numbers of *uninstructed* persons. We conclude therefore with repeating what we ventured at first to advance, that *the difference in profit* to the United States, between *good* and *bad* cultivation is a *primary* object of honourable profit which cannot be rendered too manifest to our cultivators, our statesmen and our men of industry of every description: and by way of opening the subject upon the great scale and in the right places, we respectfully submit a recommendation, that *a committee of agriculture* be regularly appointed, and maintained by each house in the legislatures of the union and the states. As reservoirs of all pertinent information, they would send forth streams, which would happily move the great wheels of the landed interest.

Present Prices of Country Produce in this Market.

Actual sales of Wheat—White, 95 cts.—Red, 90 to 92 cts—Corn 46 to 48 cts—Rye, 52 to 55 cts—Oats, 32 to 35 cts—Hay, per ton $16 50 to $17—Straw, do. $7 to $9—Flour, from the wagons, $4 50—Whiskey, from do. 30 to 31½ cts—Butter, pr. lb. 18¾ cts—Eggs, per doz. 12½ cts—Lamb, per quarter, 37½ to 75 cts—Veal, per lb. 6 to 8 cts—Beef, prime pieces, 10 cts.—Live Cattle, $6 50 to $7—Peas, per bushel 80 cts—Potatoes, per peck 50 cts—Maryland Tobacco, 3hhds. Calvert county, at $9 50—One do. Charles county, at $9—Two do. at $8 50, and all that we know of since last report—No sales of Virginia Tobacco, the present week that we have heard of—North Carolina produce, same as last report.